

Item	Qty -249	Part Number	Description
1	X	D412-664-249	CROSSTUBE ASSEMBLY (412 LOW AFT)
2	1	D6009-129	CROSSTUBE
3	1	D2896-1	SUPPORT
4	2	D3189-1	CHAFING SHIELD
5	2	D3595-063-570	RUBBER CUSHION
6	2	D3660-1	CUFF
7	44	CR3212-4-07	RIVET (OR M7885/3-4-07)
8	4	MS21920-28	CLAMP
9	2	MS21920-30	CLAMP (OR MS21920-32)
10	A/R	SCOTCH-WELD DP460	EPOXY ADHESIVE, 3M SCOTCH-WELD
11	A/R	PROSEAL 890	SEALANT, MIL-S-8802 CLASS B2
12	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 127.826±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
c) APPLY MATTE CLEAR COAT TO UNDERSIDE OF CROSSTUBE PER DART QSI 005 4.2
d) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C6-2, HATCHED AREA)
e) PAINT OUTSIDE PER DART QSI 005 4.2
f) AFTER PAINTING, REMOVE MASKING
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-249" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 42.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

TURNING

- 10) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

BENDING

- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.






ASSEMBLY

- 13) INSTALL D3660-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 14) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.
- 15) INSTALL D2896-1 CENTER SUPPORT USING A 0.04" TO 0.07" THICK LAYER OF SCOTCH-WELD DP460 PER QSI 015.
- 16) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 17) APPLY A THIN COAT OF PROSEAL 890 ON INSIDE CONCAVE SURFACE OF D3189-1 CHAFING SHIELD AND LET CURE PER MANUFACTURER'S INSTRUCTIONS. INSTALL PROSEALED D3189-1 CHAFING SHIELD ONTO CROSSTUBE BY APPLYING A THIN COAT OF PROSEAL 890 ONTO CROSSTUBE. BE SURE TO ELIMINATE ANY AIR GAPS.
- 18) TORQUE CLAMPS ON D2896-1 SUPPORT 80 TO 100 IN.-LB. TORQUE CLAMPS ON D3189-1 CHAFING SHIELD 40 TO 50 IN.-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER ADHESIVES HAVE CURED FOR 24 HOURS.

RELEASED

2017 JUN 21

ECN 17-593

D	NOTE 2: ADD INSPECTION WINDOW (PAR17-601), SHEET 2: UPDATE ASSEMBLY DETAIL	JMH	17.05.01
C	NOTES RE-ORDERED, SCOTCH-WELD WAS MAGNOBOND (C8-1), ADD CLAMP RETORQUE (A8-1), REMOVE ABRASION STRIP, CHAFING SHIELD NOW 4.38 WIDE (C6-2), CLAMPS FLIPPED TO PREVENT CHAFING (B7-2), INCORP. DEO B-1/-2/-3	CP	14.04.01
B	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D412-664-249	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (412 LOW AFT)	NTS
DATE	17.05.01	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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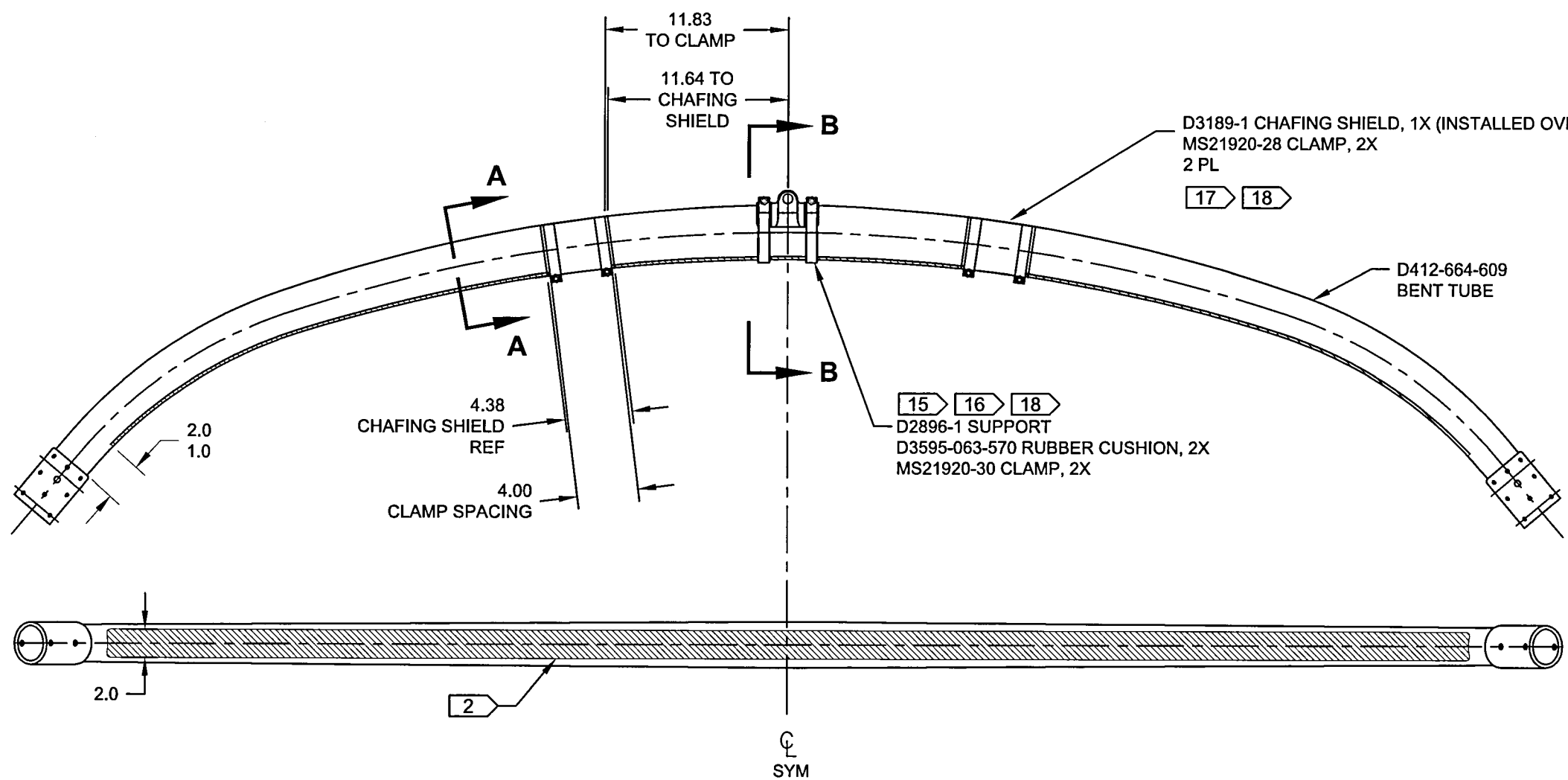
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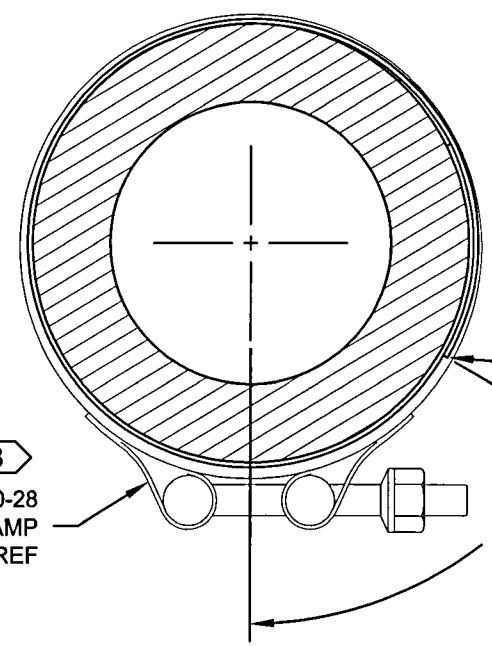
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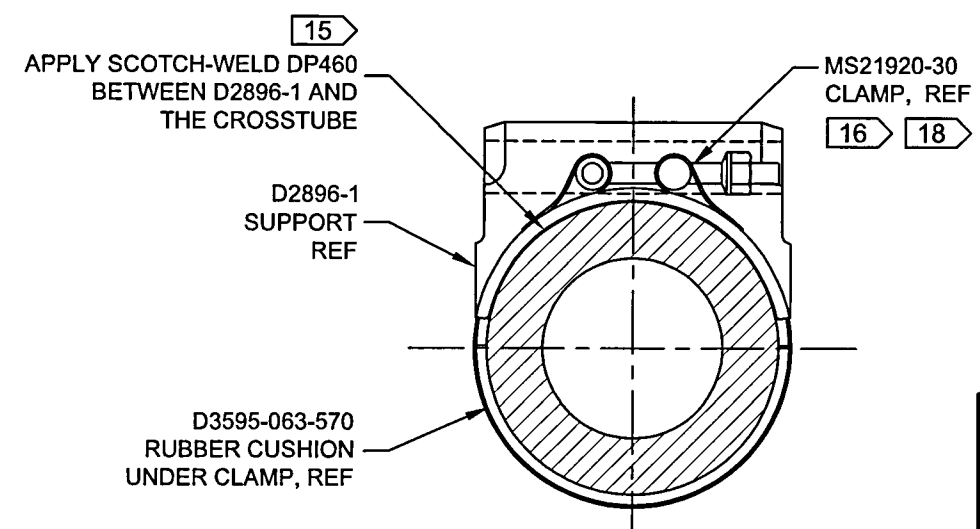
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D412-664-249
ASSEMBLY DETAIL



SECTION A-A
SCALE 6X D6-2

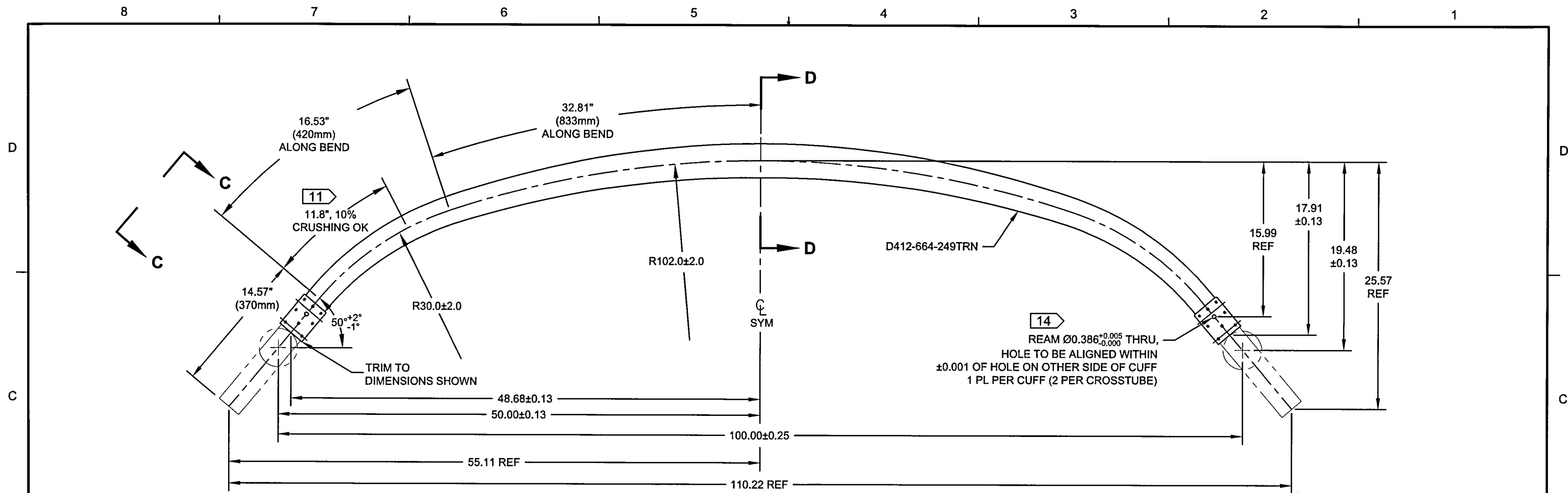


SECTION B-B
SCALE 4X

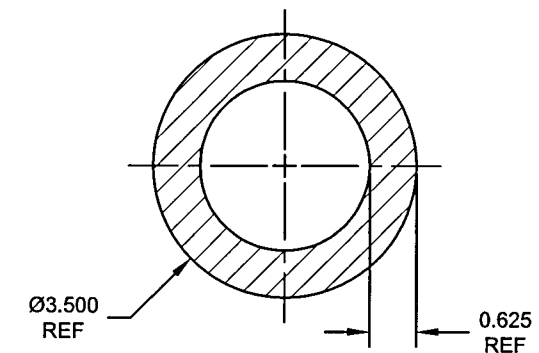
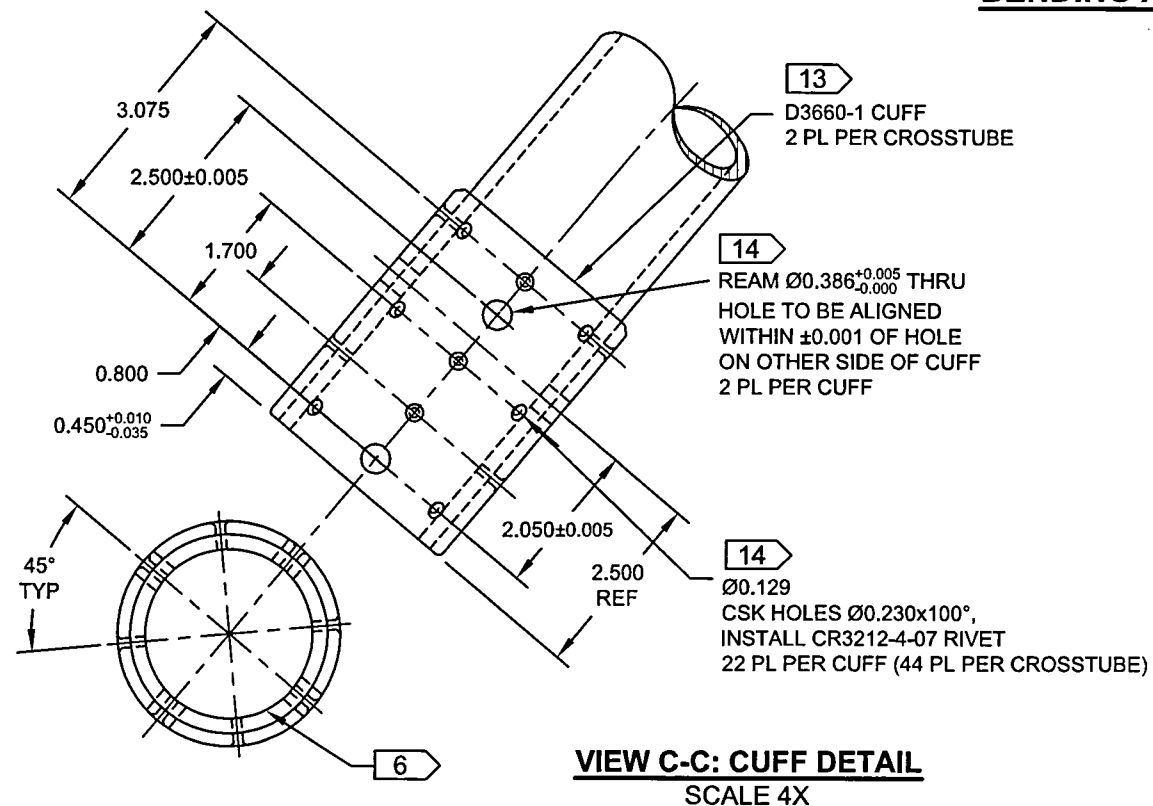
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2017 JUN 21 *g*

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CHECKED	<i>LS</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>LS</i>	D412-664-249	SHEET 2 OF 4
APPROVED	<i>LS</i>	TITLE	SCALE
DE APPR.	<i>LS</i>	CROSSTUBE (412 LOW AFT)	NTS
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D412-664-609
BENDING AND DRILLING DETAIL 11



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DRAWN	<i>JUL</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>DS</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>DS</i>	D412-664-249	SHEET 3 OF 4
APPROVED	<i>DS</i>	TITLE	SCALE
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